



Support News 

May 15, 1994

Volume I, Issue 2

**“Get Off the Highway
and Into the Alley”**

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Inside Information...

About The Information Alley

The Information Alley™ is a publication of Apple Computer, Inc., Support Information Services. It is available to all Apple customers and computer users through a variety of on-line services and direct email capability (see **Where to Find the Information Alley** on page 7).

The goal of the Information Alley is to help Apple computer users get full use of their Apple computers, peripherals, and software.

Articles chosen for the Information Alley come from many sources, both from inside Apple Computer and from our customers and users. Sources include the Technical Information Library, Apple Assistance Center, New Technology Group, World Wide Product Technical Support, Apple Users Groups, and other technical groups and organizations.

Submissions and Letters to the Information Alley

We welcome articles that help Apple computer users become more knowledgeable about the functionality of their systems, explain or illustrate complex features or functions, or that describe technical tips or techniques. Send submissions to:

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We also welcome letters to the editor and suggestions for future articles. Please send all letters to the preceding address.

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Please share when done!

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We Heard and Responded

By Janet Christian

Thanks to all of those who took the time to respond to our first issue. We took your suggestions to heart and made a few adjustments in this issue. We would also like to respond to some questions that several of you had.

Format Changes

Avoiding Italics

We eliminated italics as a means of highlighting a word or phrase (except in titles). Italics proved difficult to read on some monitors. Instead, we are using the old tried-and-true underlining method. The intent is the same, but it should be easier to read.

Underlined Section Titled

To make it easier to tell what is a section and what is a subsection, all section titles are now underlined.

Resizing Request

We have had a lot of requests (especially from those with smaller-sized monitors) to be able to resize an on-line page. That is currently not something that the Common Ground Mini-Viewer can do, but we have forwarded your requests on to No Hands Software as an

enhancement request to Common Ground.

Multi-page Articles

We try, whenever possible, to keep articles to one page, which is easier to read (especially on-line). However, we must occasionally continue an article to multiple pages. When this occurs, we try to continue the article on the next contiguous page, again for ease of on-line reading. Sometimes, because of formatting and layout considerations, we must continue an article onto a non-contiguous page. We know that this makes it more difficult to read on-line and will do everything we can to avoid this type of layout.

Responses to Questions

Downloading the Alley

We received several requests from readers asking if they could download/upload the Information Alley to their local servers, BBSs, etc. We are more than happy to see the Information Alley be distributed as widely as possible – it is, after all, designed to assist customers, so the more we reach the better.

We ask one favor; please let

us know where you post the Alley so that we can keep track of how widely it is distributed.

Submissions and Suggestions

We were asked by several people about submitting articles for publication. We will be happy to consider any article you would like to submit. We reserve the right to make final judgment as to its appropriateness with respect to the focus we want to maintain in the Information Alley.

If you are interested in submitting an article, please keep these points in mind:

- The Information Alley's goal is to provide Apple computer users with up-to-date, pertinent technical and product information
- Any article submitted must include the author's name and contact information, in case we have questions or need additional information.
- We publish the Information Alley every two weeks. Therefore, deadlines are tight. We will include your article (if it meets the preceding criteria) in the next available issue, which may not be the next scheduled issue. 🍏

Troubleshooting Start-up Problems

By System 7 Support Team & Stephanie Hahn

Use this table to determine what's wrong when you have trouble starting up your Macintosh computer. Do the steps in the **PROCEDURE** column. If the **RESULT** column indicates a possible problem, the **ACTION** column describes how to correct (or isolate)

it. Here are possible problems this table can help isolate:

- System hangs at start-up or during use
- Blinking question mark displays at start-up
- Sad Macintosh displays at start-up
- System crashes (bomb or no indicator) at random times or with different applications

STEP	PROCEDURE	RESULT	ACTION
1	<p>Disable Extensions</p> <p>Restart your machine and hold down the SHIFT key.</p>	If your machine starts up without loading any extensions, then you have a probable extension conflict. Otherwise, continue to Step 2.	See Troubleshooting Extensions on page 5 to correct the problem.
2	<p>Boot from Disk Tools</p> <p>Restart your machine by booting from the Disk Tools floppy disk.</p>	If your machine restarts from diskette, you may have corrupt system software or a drive problem. Otherwise, continue to Step 3.	See Using Disk Tools on page 6 to correct or isolate the problem.
3	<p>Disconnect external devices</p> <p>Disconnect all external devices (such as all SCSI devices, printers, networking, extra monitors, etc.).</p>	If your machine starts up with no external devices attached, you have a possible out-of-date driver or a SCSI ID or software conflict. Otherwise, continue to Step 4	See Troubleshooting Peripherals on page 6 to correct or isolate the problem.
4	<p>Reset PRAM</p> <p>Press ⌘ OPTION p r to zero out the information the machine maintains on ports, devices, and Finder and network settings.</p>	If your machine starts up after resetting PRAM, then there was most likely corrupt information in the Parameter RAM on your machine. Otherwise, continue to Step 5	See What's in PRAM? on page 7 to understand the problem.
5	<p>Perform a Clean Install</p> <p>Follow the steps in the Technical Information Library or in Volume I, Issue 1 of the Information Alley to perform a Clean Install of system software.</p>	If your machine starts up after a clean install, then one of files you added, or one of your old system files was corrupt. Otherwise, continue to Step 6.	Carefully go through the Storage folder you created during the Clean Install; look for fonts, extensions, control panels, etc. that you might need and put them back where they belong.
6	<p>Try these last ditch efforts:</p> <ul style="list-style-type: none"> • Try other disk utilities • Reformat the drive and reinstall a recent backup • Contact vendors of Third Party hardware or software you use 	If your machine starts up after trying these efforts, then you have successfully corrected the problem and are ready to work.	Make regular backups in case you have trouble again. (But don't destroy the backup you restored in this step.)
		If your machine still doesn't start up, there is most likely a hardware problem.	Contact your local Service Provider to isolate and correct your problem.

Troubleshooting Actions

Use the actions described here as indicated by **Troubleshooting Start-up Problems** on page 4.

These actions, and the procedures described on the previous page, may help you resolve a number of common problems, from damaged or missing files, to extension incompatibilities, to SCSI termination problems. If you have any third-party (non-Apple) devices or software, please adhere to the recommendations of the manufacturer if they differ from the more general instructions presented here.



As a precaution, you should back up important files regularly to minimize the risk of data loss.

Troubleshooting Extensions

Extensions load into memory at system startup time, and actually change the way the operating system works. When they are incompatible with the version of the system software you run, corrupt, or conflicting with one another, they can cause unexpected results.

Extensions are sometimes also called INITs; they are usually in the Extensions Folder or the Control Panels folder within your System Folder. Sometimes they are at the root level of the System Folder itself. As they load into memory at system start-up time, their icons usually appear on the bottom of your screen.

To troubleshoot extensions, follow these steps:

STEP	ACTION
1	Restart with your SHIFT key down, until you see the box with the message Welcome to Macintosh – Extensions Off . If the problem goes away, then continue these steps to determine which of your extensions are causing the problem.
2	Restarting with extensions off also disables file sharing and virtual memory. Use the Memory Control Panel to turn Virtual Memory, 32-bit, and Memory Manager OFF and to turn the Disk Cache down to 96K or below. Use the Sharing Set Up control panels to turn File Sharing OFF . Restart. If problems do not go away, continue with these steps.
3	Check your Extensions Folder, your Control Panels Folder, and the root level of your System Folder for non-Apple chooser and system extensions and control panels (such as virus protection, screen savers, compression utilities, etc.). Drag these <u>outside</u> of your System Folder (make a new folder for them named <u>Disabled Extensions</u>). Restart. If the problem goes away, then you have succeeded in removing the problem extensions. Continue with Step 4. Otherwise, check through your System Folder again for extensions you may have overlooked.
4	To determine which of the extensions you removed was causing the problem, drag the extensions <u>one at a time</u> onto the icon of your closed System Folder. The system puts them away where they belong. Restart after each addition. When the problem returns, you will know that it is the last extension you dragged to the System Folder. Remove it and restart. Check its version number for compatibility. Try reinstalling it from original floppies, or contact the software vendor.
5	If you are still unable to find the culprit, do a Clean Install by following the steps outlined in the Technical Information Library or in Volume I, Issue 1 of the <u>Information Alley</u> .

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Using Disk Tools

The Disk Tools Disk that comes with your system software includes a System Folder and two utilities:

- Disk First Aid
- Apple HD SC Set Up

Because it includes a System Folder, you can use the Disk Tools Disk to boot up your Macintosh when you have a problem starting from the hard disk; insert the disk into the floppy drive and turn on the Macintosh. The Disk Tools Disk icon displays in the upper right corner, and your hard disk icon should display below it.

Disk First Aid

Use Disk First Aid to check your internal hard disk for directory problems. Simply launch Disk First Aid, click **Drive** until the selected drive is your internal hard disk, then click **Open** and **Start**. If Disk First Aid finds problems it can't repair, you may want to try other third party disk utilities to correct the problem. However, if you cannot repair the disk, you need to reformat it. Make sure you have a backup of your data before reformatting. If you don't have a backup, you may want to take your drive to a Service Provider that specializes in hard disk recovery.

Apple HD SC Set Up

Apple HD SC Set Up is a disk formatting utility for Apple hard disks. If you have a third party hard disk in your Macintosh, you get the message that Drive Selection Failed when you launch Apple HD SC Set Up. In this case, use the third party disk formatting utility that came with your drive, or contact the vendor of the drive. To use Apple HD SC Set Up on an Apple hard disk, launch the utility and simply click the Update button to reinstall the hard disk drivers. You can also use the Test button to test the hard disk, and Initialize to reformat.

Note: Initializing erases all data on your hard disk. Ensure you have a backup before doing this.

Troubleshooting Peripherals

If you were experiencing problems that go

away when you disconnect your peripherals, follow these guidelines:

SCSI Devices

If you have SCSI devices connected to your Macintosh, make sure that you have followed the vendor's instructions for installation. Specifically, check:

- Termination

SCSI chains should be terminated at the beginning and end of the SCSI chain. Your internal hard disk (if any) is considered the beginning of the chain, and has terminating resistors. Whatever device is last in your chain should also be terminated. Check the manuals that came with the devices to discover if they are internally terminated. If not, the last device needs an external terminator. Devices in the middle of the chain should not be terminated. Again, check the manuals or contact the vendor.

- Unique SCSI ID

Each device on the SCSI chain requires a unique ID number between 0 and 7. ID 0 is generally used on internal hard disks; ID 7 is reserved for the Macintosh itself. This leaves numbers 1 through 6, which you can assign to your external devices. Consult the manuals that came with your devices to determine how to set their IDs.

- High-quality SCSI cables

Use high-quality cables, the shorter the better (three feet or less). When chaining more than one external SCSI device, try to use the same brand of cable.

- Starting up

External SCSI devices should be powered on, one at a time, before starting up the Macintosh. When shutting down, shut down the Macintosh first. Once the Macintosh has powered down (the screen goes dark or you get a dialog box telling you that it is OK to Shutdown) then turn off each device, if desired. Never connect or disconnect SCSI cables when any device is turned on. Do not start up the Macintosh with a SCSI device turned off, unless the manufacturer

Continued on next page...

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specifically says in the manual that this is acceptable.

Network Connections

If you have problems starting up your Macintosh with a network connector attached (such as a localtalk connector box), there may be problems on the network, or with the connector itself. First, swap out the connector with a known good one; if problems persist, consult with your network administrator.

Apple Desktop Bus (ADB) Devices

If you are experiencing problems starting up when an ADB device, such as a mouse or tablet, is connected, first make sure the connections are snug. Try another ADB port, if your Macintosh has more than one. If you are still having problems, contact the device vendor.

What's in PRAM?

Parameter Random Access Memory (PRAM) is a small

amount of memory continually powered by a lithium battery to retain its contents even when the machine is shutdown. PRAM maintains information such as: background color, default video selection, network information, serial port information, and default highlight color.

The Macintosh 128K, Macintosh 512K, and Macintosh 512KE contain 20 bytes of Parameter RAM (PRAM). These 20 bytes of PRAM are documented on pages II-369 to II-371 of Inside Macintosh Volume II.

The rest of the computers in the Macintosh family have 256 bytes of PRAM (except for the Macintosh Portable which has 128 bytes). Most of the information stored in PRAM isn't documented in any technical manual.

Even though you may not know what in PRAM is causing problems on your machine, resetting this information can often be an important troubleshooting step. Particularly when serial devices are connected to the machine, or when networking software is in use.

After resetting PRAM, your environment may be a bit different; you should "re-customize" it to your liking. Resetting the PRAM resets your Macintosh to the factory defaults, so anything you've customized (like background or highlight color) is reset, your alert sound may be different, and AppleTalk will most likely be turned off. Reset your control panels to what you had before. 🍏

Where to Find the Information Alley

You can now find the Information Alley on these on-line services:

- AppleLink
Path is: Support → News & Support Guide: Apple Information Alley
- eWorld
Path is: Computer Center → Apple Customer Center → Quick Answers → Save Yourself a Phone Call → The Information Alley
- CompuServe
Currently posted in Ziffnet/Mac area.
- Internet
Path is: Apple Computer Higher Education gopher server → Apple Support Area → The Information Alley (using Turbogopher software).
Host name is: info.hed.apple.com
IP number is: 134.84.132.13
- America Online
Posted to the Macintosh Hardware Forum. Check under the New Files and Free Uploading.
- Imagine-Net BBS (Irvine, California).
Send email to: eabarry@aol.com 🍏

Newton MessagePad 110

By Leslie Dolan

This article describes the Newton MessagePad 110.

MessagePad 110 Features

New Industrial Design

The MessagePad 110 is a completely new industrial design – slightly longer and narrower than the original to accommodate a better grip. It includes a flip-top cover that folds out of the way when in use, and flips closed to protect the MessagePad's screen when the Newton is off or charging.

Memory

The MessagePad 110

memory has been expanded to 1MB with about 480K available for user storage. Users should expect to be able to store about 600 recognized notes, 750 names, 1500 appointments, and 100 notes in digital ink.

Battery Life

The MessagePad 110's design accommodates AA-type batteries, which increases the battery life to up to 50 hours of use when using alkaline batteries and up to 20 hours when using NICD batteries. The implementation of type AA batteries also brings the MessagePad 110 into a range of common electronic devices that use this battery

size. With the optional MessagePad 110 Recharger, the Newton can recharge a battery pack in about two hours.

Screen and Stylus

The MessagePad 110's screen is 16 pixels shorter than the original MessagePad. Software titles that were written to adjust to variable screen sizes should not experience any trouble when used on the MessagePad 110. Titles that do not adjust to variable screen sizes may not work properly with the MessagePad 110. A new, round stylus is also included which may make writing more comfortable for some users.

Manual and Video

A revised manual and video is included for all MessagePad 110 customers.

Improved Recognition Capabilities

The Newton Intelligence Operating System included in the MessagePad 110 ROM supports two new features which enhance handwriting recognition. An improved letter-by-letter recognition feature allows users to write words that are not in Newton's dictionary yet Newton will recognize them. Another new feature called

See Newton on page 10...

Technical Comparison

ASPECT	MessagePad 110	MessagePad 100
Power Supply	4 Type AA batteries	4 Type AAA batteries
Estimated Average Battery Life:		
• Alkaline Batteries	40-50 hours	10 - 28 hours
• NICD Batteries	15-20 hours	4 - 12 hours
Enclosure	Flip-open cover	Carrying case
RAM/User Space	1024 K/480K	640K/150K
Screen Size (pixels)	240 x 320	240 x 336
Pen	Telescopic round	Flat
Size	8" x 4" x 1.25"	7.25" x 4.5" x 0.75"
Weight (with batteries)	1.28 lbs	0.9 lbs
Infrared Transfer Rate (at one meter)	Up to 38.4 Kbps	Up to 38.4 kbps

Locked Out of Your Macintosh Performa Computer?

By Wayne Brissette

The Macintosh Operating System provides some protection from accidentally throwing away important files. The Macintosh Performa computers provide additional protection for the System and Application folders.

Types of File Locking

There are two ways to lock files in the System folder and the Application folder:

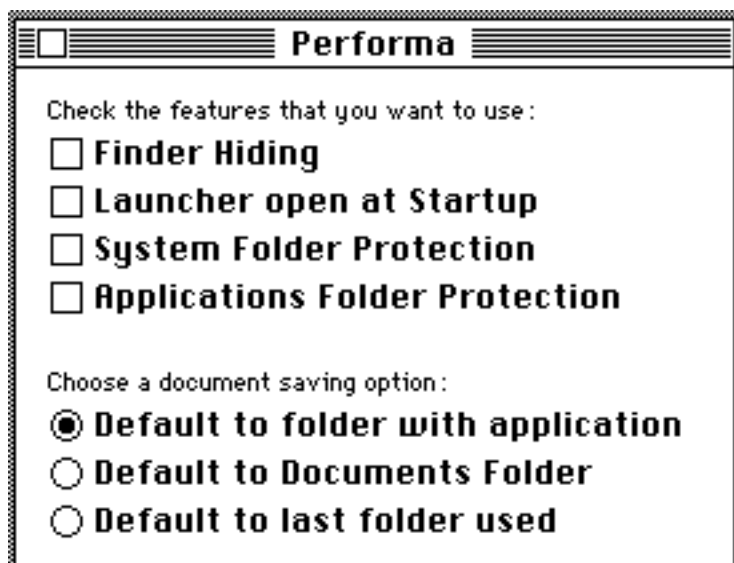
- Performa Control Panel
- Using Get Info

Performa Control Panel

All Macintosh Performa computers that have System software version 7.1P3 or later have the Performa control panel.

The Performa control panel lets you protect the System folder and the Application folder by "locking" files. This lets files go into the two folders, but they cannot be moved out of the folders or thrown away.

Here is an illustration of the Performa control panel:



This is different from other methods of locking files. When files are locked from the Finder, you can still move them around, but you cannot totally remove them without a warning and without either unlocking them or holding down the **Option** key while choosing **Empty Trash** from the **Special** menu.



If System folder protection and/or Application folder protection is turned on in the Performa control panel, then when files in those folders are viewed by any view other than icon or small icon, a lock appears in the listing.

If you choose **Get Info** on a file that is locked from the Finder, an **x** appears in the **Locked** box. If you remove the **x**, the lock disappears from the file listing. However, the file is still locked. This is because the Performa control panel still has the folder protected. (See **Example of a locked file:** on page 10.)

Using System and Application folder protection is the easiest method of locking every item in those folders. The only disadvantage of using this method is that you cannot lock individual files. However, if you want to lock certain files, you can use the Using Get Info method.

See Locked Out on the next page...

Using Get Info

The other method of locking items on a Macintosh Performa computer, is using the Get Info from the Finder - This method lets you select files you want to lock from anywhere on your hard disk or floppy disks, not just the System folder and Application folder.

Troubleshooting Tips

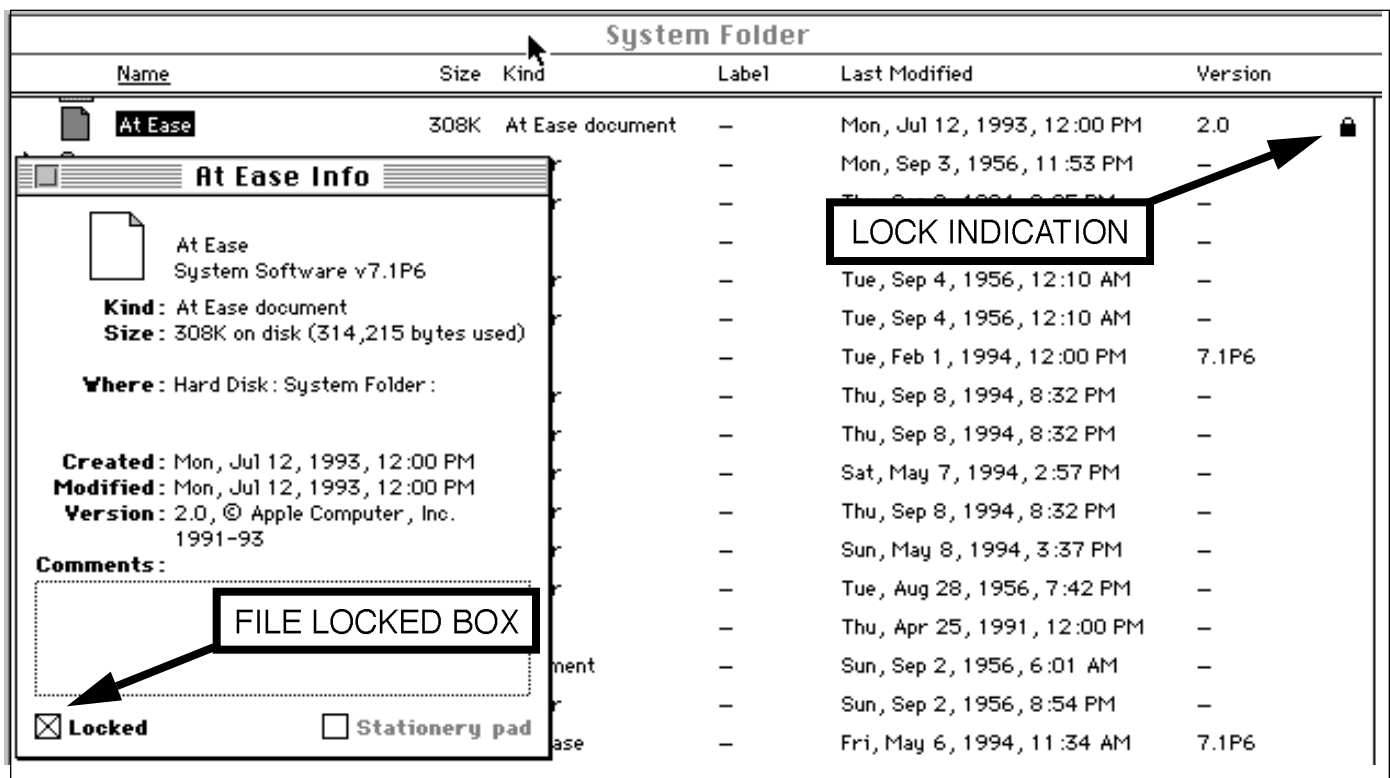
Symptom	Solution
You cannot remove an item from the System or Application folder, because it is locked.	Turn off System Folder and/or Application Folder protection in the Performa control panel. From the Finder, highlight the item and choose Get Info from the File menu (⌘ I). Remove the X in the Locked box.
X removed from the Locked box in Get Info, but the item still cannot be moved or trashed.	Open the Performa control panel and turn off System or Application folder protection.

deferred recognition allows users to take notes in digital ink and return to the note and recognize them later. Newton users now also have the option of adding the names, street names, and cities they enter into the Names application of Newton's dictionary.

Compatibility

The MessagePad 110 can share data with any other device based on Newton Intelligence, including the original MessagePad. Applications written for the Newton OS which adjust for variable screen sizes are compatible with the 110. Those that do not adjust for variable screen sizes may not work properly. 🍏

Example of a locked file:



Upgrading to a Power Macintosh

From the Tech Info Library

This article contains the specifications for the Power Macintosh Upgrade Card and Power Macintosh Logic Board Upgrades.

Power Macintosh Upgrade Card Technical Specifications

Microprocessor

- Includes PowerPC 601 RISC microprocessor
- Provides integrated floating-point processor and 32K cache
- Runs at twice the clock speed of upgraded Macintosh

Cache

- 1MB on-board level-2 cache

Installation

- User-installable in Motorola 68040 processor-direct slot of upgraded Macintosh ROM
- Includes 4MB Power Macintosh ROM

Operating Environment

- Operating temperature: 50 to 131 degrees F (10 to 55 degrees C)
- Relative humidity: 5% to 95% (non-condensing)
- Maximum altitude: 10,000 feet (3,048 meters)

Macintosh Upgrade Compatibility

MACINTOSH MODEL	6100/60 6100/60AV	7100/66 7100/66AV	8100/80 8100/80AV	UPGRADE CARD
Quadra 900, 950				*
Quadra 840AV			*	
Quadra 800			*	*
Quadra 700				*
Quadra or Centris 660AV	*			
Quadra or Centris 650		*		*
Quadra or Centris 610	*			*
Macintosh Ilvx, Ilvi, or Performa 600		*		

Power Macintosh Upgrade Card Speed Comparison

MACINTOSH MODEL	68040 SPEED (MHz)	MACINTOSH UPGRADE CARD SPEED (MHz)
Quadra 950	33	66
Quadra 900	25	50
Quadra 800	33	66
Quadra 700	25	50
Quadra 650	33	66
Quadra 610	25	50
Centris 610	20	40

After upgrading to a Power Macintosh, your system continues to run almost all your existing Macintosh software. For best performance and greatest speed, look for the new software programs designed especially for Power Macintosh computers. You'll find Power Macintosh programs at any software store that carries products for Macintosh computers.

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Ordering Information

Power Macintosh Upgrade Card

Order No. M2843LL/A

- Power Macintosh Upgrade Card
- Necessary hardware for installation
- Complete installation instructions

Power Macintosh 6100/66 Logic Board Upgrade

Order No. M2343LL/A

With 8MB of RAM and Power Macintosh Display Adapter

Power Macintosh 6100/60AV Logic Board Upgrade

Order No. M2901LL/A

With 8MB of RAM and cable for S-video to composite video

Power Macintosh 7100/66 Logic Board Upgrade

Order No. M2474LL/A

With 8MB of RAM and 1MB of VRAM

Power Macintosh 7100/66AV Logic Board Upgrade

Order No. M2840LL/A

With 8MB of RAM, 2MB of VRAM, and S-video to composite video adapter

Power Macintosh 8100/80 Logic Board Upgrade

Order No. M2344LL/A

With 8MB of RAM and 2MB of VRAM

Power Macintosh 8100/80AV Logic Board Upgrade

Order No. M2902LL/A

With 8MB of RAM, 2MB of VRAM, and S-video to composite video adapter

Note: The preceding upgrades include system software version 7; complete setup, learning, and reference documentation; as well as a limited warranty.

Internal CD-ROM Upgrades

- AppleCD 300i Plus internal CD-ROM drive: Order No. M3152LL/A
- Adapter kit for Power Macintosh 6100/60 or 6100/60AV: Order No. M2846LL/A
- Adapter kit for Power Macintosh 7100/66 or 7100/66AV: Order No. M3126LL/A
- Adapter kit for Power Macintosh 8100/80 or 8100/80AV: Order No. M2847LL/A

Other Systems That May be Upgraded

Apple has announced that these systems may be upgraded to Power Macintosh but no detailed information is available at this time:

PRODUCT	MODELS THAT WILL BE UPGRADABLE
Performa	475, 476, 550, 550, 560, 575, 576, 577, and 578
LC	475, 550, and 575
Quadra	605
PowerBook	280, 280C, 520, and 540
Apple Workgroup Server	60, 85, and 95

Watch future issues of the [Information Alley](#) for detailed information about these upgrades as they become available.

Out of Memory? Not Necessarily...

From the Tech Info Library

When it's difficult to open applications or print, these tips will help you use Macintosh memory more efficiently. For more information about managing memory, see the [Macintosh User's Guide](#). To use System 7, your Macintosh needs at least 2MB of memory (4MB is recommended). If you customarily work with several programs at a time, you may wish to install more memory.



Use the Available Memory

If you get a message asking if you'd like to open a program using the available memory, click **OK**, and the program will open. This message appears when the available memory is greater than the minimum memory required to open the program, but less than the recommended amount. In rare cases, you may be unable to use some features of the program.

Quit Some Open Programs

When you open an application and see the "not enough memory" message, you should quit one or more open programs. Open the Application menu (right end of the menu bar) to see which programs are open. This message appears when the available memory is less

than the minimum required to open the program.

Change a Program's Memory Size

You can often avoid memory problems by reducing or sometimes increasing a program's current memory size. In rare cases, reducing a program's memory size degrades performance.

Sometimes the "not enough memory" error is telling you that your system may have enough RAM available, but the application's "preferred memory size" is set too low. Check **About This Macintosh** in the **Apple** menu for the largest free block size to ensure that you have enough free space; increase the Preferred Size (Step 4 in the following table) to a larger amount (you may need to experiment).

Follow these steps to change a program's memory size:

STEP	ACTION
1	Quit the program.
2	In the Finder, select the program's icon.
3	Choose Get Info from the File menu. The program's Info window appears.
4	Reset the memory size in the Preferred Size field.
5	Close the Info window.
6	Try again to open the program.

Turn Off Background Printing

When background printing is on, you can print while using the computer for other work. If you don't need background printing, you can reduce the amount of memory required to print by turning it off.

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Follow these steps to turn off background printing:

STEP	ACTION
1	Choose the Chooser from the Apple menu.
2	In the Chooser window, select a LaserWriter icon.
3	Click the Background Printing: Off button.

Quit Some Programs Before Printing

When you print, you'll sometimes see the Application menu begin to blink. When this happens, follow these steps to quit a program and make more memory available for printing:

STEP	ACTION
1	Choose Finder from the Application menu. You'll see an alert box.
2	Click OK to close the alert box.
3	From the Application menu, choose the program you want to close. The program becomes active.
4	Choose Quit from the File menu.

After quitting one or more programs, try printing again.

Set the Disk Cache to the Smallest Size

The disk cache is a portion of the computer's memory set aside to limit how often the computer must read from a disk. This speeds up the computer's performance. By reducing the size of the disk cache, you can make more memory available for application programs. Follow these steps to adjust the disk cache:

STEP	ACTION
1	Choose Control Panels from the Apple menu.
2	Open the Memory control panel (double-click the Memory icon).

STEP	ACTION
3	In the Memory control panel, click the down arrow repeatedly until the disk cache is the smallest possible size.
4	Choose Restart from the Special menu to restart the Macintosh.

Drag Optional Extensions Out of the Appropriate Folders

Extensions (also known as INITs) compete with application programs for memory. (System extension icons are often displayed in the bottom-left portion of the screen when the computer starts up.) There are three types of extensions:

- Control Panels
- System Extensions
- Chooser Extensions

These extensions may be located in any of these folders:

- Control Panels folder
- System Folder
- Extensions folder

You can conserve memory by removing system extensions that you don't need. For instance, if your Macintosh is not connected to a host database, you can remove the DAL (Data Access Language) system extension. Likewise, if your Macintosh is not connected to a network, you can remove the AppleShare system extension. Follow these steps to remove system extensions:

STEP	ACTION
1	Open the System Folder .
2	Open the appropriate folders.
3	Drag the system extension icon out of the System Folder to another location on your hard disk.
4	Restart the computer.

See Memory on page 17...

System Update Disk Version 3.0

By Stephanie Hahn

System Update Disk v 3.0 is a set of software enhancements for any Macintosh computer running System 7.1, 7.1.1, or 7.1.2.

This update also applies to any Performa version of 7.1.

System Update Disk v 3.0 ships in these configurations:

- The Standard Configuration ships with two 1.4 high density floppy disks
- A single 800K floppy configuration.

This configuration provides the features of System Update Disk v 3.0 needed by machines that may not support FDHD floppies (the Macintosh Plus, SE and Macintosh II).

See **System Update Disk v 3.0 FDHD Contents and Detailed Changes** on page 16 for a list of items shipped with each version.

General Enhancements

These general enhancements are for all Macintosh computers running 7.1 or later.

- Provides system-level improvements to increase overall system performance and reliability on most Macintosh models.

- Corrects a problem that allowed the system to become corrupted during a power failure or crash and prevented it from restarting.
- Prevents a PowerBook from trying to spin up its hard drive when the system is warning you that there is only 10 seconds of battery power remaining.



- Fixes the **About This Macintosh** box so the memory usage line doesn't get drawn outside of its bounds.
- Provides a solution to prevent the file corruption that can happen when a

file is being modified remotely (Remote Access or file server) and the connection is unexpectedly broken.

Now, when the remote volume is lost, its icon remains dimmed on the desktop.

- Updates the Standard File package to include many fixes and enhancements.

The most significant fix allows more than 20 volumes to be mounted, and the use of color icons.

- Provides increased reliability for remote file saving when the client is running System 7.1 or greater while the server is running a pre-7.0 System and using pre-3.0 AppleShare.
- Fixes a problem with throwing away folders which were on an AppleShare volume.

Sometimes after attempting to empty the Trash the Finder would warn you that the folder contains items that are in use and could not be

Continued on next page...

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deleted. The Trash now properly handles folders from AppleShare volumes.

- Updates the Easy Access Control Panel to version 7.2, fixing a wake up problem on PowerBooks. It now remembers whether sticky keys, mouse keys, and slow keys were on or off between restarts.
- Includes SimpleText version 1.0, which replaces TeachText.
- Includes Apple HD SC Setup version 7.3.1

Who Should Install System Update Disk v 3.0?

Install this update only if you have Macintosh system software version 7.1, 7.1.1, or 7.1.2 installed on your computer. It is compatible with the Performa versions of 7.1.x.

If you have already installed the earlier updates, you should still install System Update 3.0 in order to have the latest version of all system software. System Update 3.0 provides additional functionality and fixes problems that the earlier updates did not address.

Systems bought after May, 1994 have the System Update Disk v 3.0 already installed on their system.

System Update Disk v 3.0 FDHD Contents and Detailed Changes

Note: 800K configuration only contains items marked with an asterisk (*).

DETAIL	MODELS AFFECTED
* System Update Read Me	All
* System Update 3.0 Extension	All
* SimpleText 1.0	All
* New Standard File Package	All
* Easy Access Control Panel 7.2	All
* Memory Control Panel 7.3	All
* Sound Manager 3.0 & Sound Control Panel 8.0.1	All except AV machines & Quadra 605, 650
* Apple Adjustable Keyboard resources The software components needed to use an Apple Adjustable Keyboard.	All except MacPlus
* Grayshare serial driver patches Improves serial driver reliability at higher speeds reduces interrupt latency.	All
* HDSC Setup 7.3.1 Ability to format large drives up to 4 GB.	All
* Disk First Aid 7.2 Improved Interface and bug fixes.	All
The PowerBook Display Control Panel 1.1	All PowerBooks
The PowerBook Control Panel 7.3.1 To simplify the user experience with the PowerBook, the functionality of the previous PowerBook control panel has been split between this control panel and the PowerBook Setup Control Panel 7.3.1 (also part of this release).	All PowerBooks
The PowerBook Setup Control Panel 7.3.1	All PowerBooks
The PowerBook Duo Enabler 1.0 Fixes the ADB problems for PowerBook Duo machines.	All Duos
Duo Battery Patch 1.0 Fixes a problem with type II batteries in the PowerBook Duo Family Enabler 1.0.	All Duos except the 270c

Continued on next page...

DETAIL	MODELS AFFECTED
Battery DA 7.1.1	All PowerBooks
AutoRemounter 1.2 This version greatly decreases the network traffic that the 1.0 release generated. A "crashing" bug on an SE at start up was also fixed.	All PowerBooks
TV Setup Control Panel 1.0.1 Support has been added for HRC cable systems. A problem was fixed that would sometimes cause the screen to darken after returning from TV mode.	Macintosh TV
Screen Control Panel 1.0.4 Fixes a problem on LC 575 systems where a single PRAM location was serving two different and conflicting purposes.	Macintosh LC 520, 550, 575, Color Classic, Color Classic II, and Macintosh TV
System Enabler 003 v1.1	LC III
System Enabler 040 v1.1 Added support for Quadra 610 and 650.	Quadra 800, 610, 650, Centris 610, 650
System Enabler 065 v1.2	Quadra 605, LC475, LC575
System Enabler 088 v1.2 Added support for Quadra 660AV. Increased File Manager performance and Resource Manager performance. Corrects failure to print to the LW Select 310 printer. Improves net work reliability.	840AV, 660AV
System Enabler 131 v1.0.3 Provides the latest software the Enabler dependent all in one Powerbook line.	PB 160, 165c, 180, 180c
System Enabler 401 v1.0.5 Fixes a problem of erratic mouse movement.	Color Classic
System Enabler 403 v1.0.2	Color Classic II, LC520, LC550
PowerPC Enabler 1.0.1	Power Macintosh 6100, 7100, 8100
PowerPC Upgrade Card Enabler 1.0.1	Upgrade Card in: Centris 610, 650, Quadra 610, 650, 700, 800, 900, 950
PC Setup Control Panel 1.0.2	Centris/Quadra w/DOS Compatibility Card

Turn Off File Sharing

When file sharing is turned on, you can share information on your computer's hard disk with other users on a network. If you don't currently use file sharing, you can conserve memory by turning it off or removing it from the Extensions folder.

Follow these steps to turn off file sharing:

STEP	ACTION
1	Choose Control Panels from the Apple menu.
2	Open the Sharing Setup control panel (Double-click the Sharing Setup icon).
3	Click Stop in the File Sharing section of the Sharing Setup control panel. A message appears asking how many minutes the computer should wait until file sharing is turned off.
4	Type a number, and click OK .

Restart the Computer

If you have opened and closed a number of programs, your Macintosh memory can become fragmented so that you can't open a large program. When this happens, quit all the open programs, and restart the computer and then open the program. 🍏

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